



# "ByteBack"

ISSUE 6 • MARCH 1993

*What a rip, there must be something better to spend your money on!*

## ADDOS

PART TWO, THE PROGRAM AND THE CONCLUSION OF ANDREW DONALO'S FINE REPLACEMENT FOR THE ACORN MASTERS OFS

## PRINTERS

PART THREE, A REVIEW AND A PRINTER SET-UP PROGRAM

## QUESTIONNAIRE

THE RESULTS FROM ISSUE THREE'S QUESTIONNAIRE

## INTER-BASE

PART THREE OF THIS INTER-OUCION

LUSI

£1955

YOUR LETTERS SHARED  
AND VIEWS AIRED

BBC SUPPLIERS AND SUPPORT  
GROUPS

USING INKEY

CLASSIFIED ADS AND SERVICES

TELEPHONE TIPS

COMPETITION RESULTS

INTERVIEW WITH... GUY RICHARDSON

REPORTS

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A DIFFERENT WAY OF LOOKING AT YOUR BBC MICRO

# *from the pen of the BB office*

# editorial

Hello, hello, hello! Here we are again. I am pleased to have managed to get this issue out somewhat sooner than the previous one. Perhaps ByteBack will be similar to BEEBUG - 10 issues a year, one for January/February and one for August/September. Anyway, down to business ...

The continuing saga with MacroMart: I have sent a number of adverts to them since the trouble before Christmas and all but the last one did not get published. I have used the powers of wisdom to reword the ad, thereby helping to make ByteBack appear to be what it actually is. This seems to have worked for the moment, as for the future, I think I'll cross the bridge when I reach it.

A freelance journalist who wrote to me requesting information on ByteBack for a forthcoming article to appear in MacroMart (ironic really) made a number of suggestions for successful 'advertising', including: advertise a BBC Micro ludicrously expensive, say £200.00, which no-body will buy, and include in the advert information of continuing support groups, which people will hopefully respond to, ask members of ByteBack to put up a postcard advert in a shop window. There were a number of other suggestions which I can't recall right now, but these were the two that I thought most useful and interesting. So, on that note ...

You will find within this issue somewhere (unless it's dropped out onto the floor, etc), a postcard sized advert that can be put up in a shop window or somewhere similar. Obviously I cannot place pressure on you to use the card, neither would I want to. It is entirely left to your own choice - I don't need to know what happens to it now that you have it. Alternatively, if you can suggest another way to further our 'mission', I would be glad to hear about it!

A number of you have asked why member's christian names are not used on the letters page and accompanying member's articles. I personally would like to see christian names being used and will use yours whenever you send articles/letters. Unless you prefer me not to? ...

Discs that you send to me *will* be returned. I hope I haven't set myself a sight too high! If I forget one, do let me know. Meantime, I would ask that when you do send me discs, could you include your name on the label somewhere? Providing I put yours on when I remove the disc from the envelope the system works ok. It's just the times I whip out the disc and jam it into the drive in my enthusiasm and the other gets forgotten...

While on the subject of advertising, the January/February issue of BEEBUG included details of other BBC support groups including info on BB. The item has generated a lot of interest and I have been busy stuffing envelopes for the last couple of weeks. Things are looking up!

On the subject of things looking up, something is looking somewhat down. Alan Blundell, who runs the BBC PD library is to discontinue his plight around April, although this is not yet set in concrete. He states that it's not the software copying that takes up his time, but the 2 hours of letter replying each evening! I was going to suggest that we all write to him, asking him to reconsider, but I think after consideration, that would not be such a good idea. More on this as it happens. This is Paul Harvey at Enfield, reporting for ByteBack.

At the Acorn User show in Harrogate between the 22nd - 24th April, Chris Richardson of SBS fame has managed to get himself a small stand. From this location over the mentioned dates, he will be handing out stickers, leaflets, infor-

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mation, advice and other wonderful things pertaining to the Beeb, in a quest to make any wandering 8-bit owner aware of continued support. I have furnished Chris with some stickers for all of his members in exchange for the opportunity to leave a pile of my own leaflets on his table. Sounds like a fair deal to me. I hope that it brings in further support for ByteBack and 8-Bit Software. We now have 60 members.

Incidentally, if you are not yet aware of SBS, let me take this opportunity to encourage you to contact Chris about his disc-based magazine and Public Domain software library. For the miserly sum of around £1.00 each month (less if you supply the disc), you can receive a disc crammed full of letters, news, utilities, games occasionally, sometimes music, in fact a whole variety of stuff. You'll also become a member of a very happy band of Beebies in the process with the option to swap communications with

one another. Contact Chris at SBS, 17 Lambert Park Road, Hedon, Hull, East Yorkshire HU12 8HF. He's a very friendly chap and he will be pleased to help you out.

Last month saw the introduction of some higher form of organisation in the BB office, with members' details being more carefully held in a new database. Along with other changes to the way I deal with the admin side of the magazine, each one of you now has a unique membership number. From this, I hope I can deal with the paperwork more quickly and accurately whilst not getting myself into a twist sorting out all the letters and stuff. Time will tell.



# *the ByteBack postbag*

# **your letters**



*And damned fine letters they  
are too. Please keep them  
coming!*

 You said in your introductory information that you'd like to hear about what people use their Beesbs for etc. Well, here goes...

A brief history of my Beeb (it's made, by the way, that's why I refer to it as *it*)

I started off with a Acorn Electron (Elk) in about 1986 which I used for playing games. I then bought a second-hand Amstrad DMP 3000 printer, an interface and 'Mini Office' and did a bit of very basic word processing. In the meantime I was captivated by a demo of the Beeb B version of Repton 3. My life was then blighted by my imminent Ph.D write-up; so I decided to buy a basic Beeb setup, mostly second hand. I finished up with an BBC model B, screen 7 and DFS, an Opus 5 25" disc drive, InterWord, Watford 32k shadow RAM and an old B and W TV. This saw me through the traumas of my thesis - at least it did with the addition of a Jink Daisywheel printer. Upon starting my first research job I decided to buy, my then faithful friend and sanity-preserved, a gift of gratitude (go ahead, call me daft if you like) - another 5.25" disc drive. This was closely followed by a SpellMaster ROM and an AMX mouse and software. These rather modest additions were followed by numerous utility ROMs, RAM/ROM boards, key pad, amber screen monitor, printer switcher box etc, etc. Beeb now sports an attractive WE hand scanner and Volex teletext adaptor and over 500 discs of software. Last year I bought a Master 128 to circumvent some problems with a lack of compatibility of SpellMaster user dictionaries with my Cambridge 15 RAM/ROM box. However, after a few weeks of using my Master I did not feel at all at home with it and the pangs

of guilt at abandoning my old friend got the better of me. So, me and Beeb are back in business and user dictionaries have gone out of the window! The Elk and Master are in the loft, the Elk I keep for sentimental reasons. The Master awaits its moment of glory when, on one sad day, it may be needed to replace poor old Beeb when he goes to the great chip yard in the sky. Til then we're rollin'!!

**Beeb's Uses?** In the main I use my Beeb for word processing (letters, scientific papers and communications). I am attempting to write a comprehensive history of the clarinet for my own benefit - a project I've been doing for many years. To this end I use IW and run both the AMX Stop Press and 'Fleet Street Editor' drawing packages in conjunction with the WE hand scanner. I use Beeb for many other things such as databasing my record, tape and CD collection, making music with the excellent Island Logic music system, brushing up my education e.g. languages with the Linkword packages, maths with the 'A' level maths package by Acorn and music with the Ted Kirk music 'Theory and Practice' and 'Play What I Play' packages. My other main use for Beeb is entertainment in the form of games - Codename Drend, Repton, Chuckie Egg, Tetris, Imogen, Scribble, Cribbage and Impact 1 (an Arkanoid variant) are among my favourites. Incidentally, my Mum's addicted to 'Snapper' and my typing tutor program - a strange combination!

Sue Shawcross, Salford, Manchester

*So much for your basic BBC setup! I'm sure that lot puts some of our systems to shame. I understand the sentimental reasons for using Beeb over the Master, after all, it's quite likely that existing BBC users are either unaware or present technology, unwilling to fork out unlimited mooolab for glorified hardware or just plain soft in the head for continuing to use their Acorn 8-bits. You might be interested to know that the Masters internal clock only continues up to the end of 1999 and I'm sure Beeb has every intention of continuing to work well past that date.*

# your letters cont...

tion of outlasting that, so I suggest you move on up to Master and perhaps keep Beeb on the shelf somewhere nearby where he can watch what you are doing. That ought to reduce the guilt somewhat. What? There's more to this letter?...

Regarding the Whist games requested by D. Goadley of Romford, Essex. I have searched through all of my software and catalogues - no mean feat I can assure you! I have in my collections found a couple of oblique (big word!) references to the existence of a Beeb Whist game:  
*Ac&B Computing volume 2 number 9 p.4*  
*Ac&B Computing volume 2 number 11 p.76*

Maybe D. Goadley can follow up these references or some other reader knows something about them or has back issues of A and B. However, if D. Goadley likes Beeb card and board games there are quite a few to go at. Here are a few that I play quite regularly:

*Micro User - 9 Classic Card and Board Games Volume 1 - Draughts, Pairs, Dominos, Reversi (Othello), Patience, Pontoon and Pairs.*

*Micro User - 9 Classic Card and Board Games Volume 2 - Backgammon, Cribbage, Solitaire, Tic Tac Toe, Poker, Sevenup, Higher/Lower,*

*BEEBUG Board Games - this includes the cribbage game I play regularly - in fact Beeb and I have got a score table going! There's also a good patience game.*

*BBC PD (18, Carlton Close, Blackrod, Bolton BL6 5DL) Disc 37 has a good patience game too.*

*Micro User Magazine Discs*  
*Volume 8 No.3 May 1990 - King Albert Patience*  
*Volume 8 No.5 July 1990 - Caenfield Patience*  
*Volume 8 No.8 October 1990 - Scorpion Patience*

I hope that this information will be of some use to D. Goadley (can we have some first names please; it all gets a bit formal otherwise!). I have on many occasions found Beeb to be my 'best friend' too; especially whilst away from home (i.e. away from my Mum and my dog). Beeb does have the added advantage over human friends that he doesn't question you nor argue with you - a bit like my dog really! The Beeb is a worthy opponent in many games. You may think I'm weird or mad or possibly both but I always buy Beeb a birthday and Christmas present every year.

*First names?* Personally, I would like to use everybody's first name because I think it makes things a little more personal; somewhat more friendly. However this is obviously not the view of everyone, judging by the number of letters I get signed "A. Nother". Still, those that include their first names will see them in print when applicable... unless I receive instruction to the contrary.

 I was pleased to see that my comment about the zeroing command on the Context Spreadsheet - Mark V was taken up by Chris Blake of Portsmouth. The actual command on that program is: "Z" to which a message is given *Clear Data or Base? (D/B)*. Thus a model can be cleared of all the numerical data, or the headings, formulae and text may be removed. Clearing only the numerical data leaves the model ready to accept a fresh set of such data, which will then be processed using the original formulae, etc.

The method Chris suggests, replicating a blank slot will of necessity blank out all the row headings as the act of placing a blank slot over a row overrides the holding of a column which might contain the headings, as does also trying to delete a row, even when the text column is Locked. The method of keeping a skeleton of the working sheet, with all the formulae in place, is I think preferable as only dates etc will require alteration.

Whilst on the subject of spreadsheets one aspect which I find I have to watch continually is the rounding up of pounds or pence to the nearest figure. This works fine if the third decimal place is 0 to 4 or 6 to 9 but where 5 is concerned it seems always to be rounded up and this can cause an error of 1 or more in the final total. Now I know to watch for this where a formula calls for a calculation such as 3.5 hrs @ £3.75 per hour (£13.125 would appear as £13.15) and if two or more of such calculations appeared in a column there would be errors in the total.

I have recently become aware of the scope of the /P command in Inter-Sheet. This enables

# your letters cont...

a heading to be printed on the Worksheet, if one does not already appear in the body of the sheet. It also enables the insertion of Printer Codes and these Codes can be called up by suitably programming function keys, and using Shift/Ctrl/Shiftkey. If keys 4,5,6 & 7 are used for this purpose there will be less confusion as these keys are the ones used in Inter-Word for Printer Codes. As an alternative to using Function Keys it is possible to use the last row of the Spreadsheet to insert the printer codes which will be required for that particular sheet into the cells and then when the time comes to print simply "/P" and, using the copy key procedure, (Up cursor up two lines) copy the particular code contained in one of the cells, which will then appear in the command line.

Now I find that I have a problem. Over the last few weeks I have found that when either using the IW or IS programs the screen will clear, with a high pitch continuous tone, which can only be stopped by pressing Break. I have a Spike Filter on the main power supply line which should, I believe, prevent any sudden surge affecting the power input. I should say that the power is from the ring main which also serves the Freezer and the Fridge. Can it be that the Spike Filter is breaking down or is something more sinister afoot? The only snag with this sort of fault is that when one looks out for it, it never happens and then when one is not prepared - BINGO! Until I get a clear week without the fault I am SAVEing every

ten minutes or so. After the week is up the act of regular SAVEing will have become a habit. The problem asserted itself last night when I was setting out to do a monthly wage bill on Inter-Sheet. First, it crashed with the continuous tone and then would not re-start in any way. Whilst juggling around with the cables and in the process threatening all sorts of fate to the Beeb, it cleared! I managed to get the job done and now no amount of juggling of the cables have any effect on it at all.

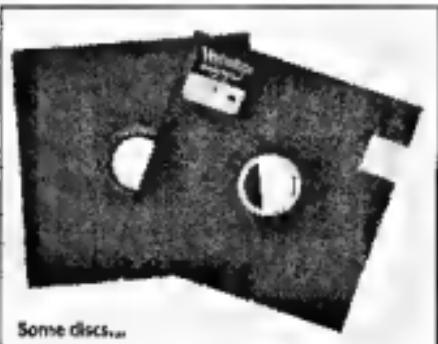
Since becoming addicted to the Beeb I have spent a great deal of enjoyable time using the machine and exploring the many aspects of it, and the wealth of information and help which I have received from 8-Bit Software, Solinet and of course Back Byte has been greatly appreciated. Looking through the back numbers of BEEBUG magazines, particularly the Flints sections has also proved rewarding.

Jim Hay, Galashiels

*Craig, what do you have to add...?? Interesting to hear of your latest "quirks" with the Beeb. I would be very surprised if it was the break down of the Spike Filter, unless you have a very 'Spiky' mains supply. Equipment is usually built to withstand the inconsistencies of mains anyway. Perhaps you should remove the Filter altogether? Otherwise, you have already fallen on a choice of solutions: a) keep looking out for the fault to happen and b) keep wiggling the cables! (perhaps you should get a few extra cables, just to make sure). On the subject of SAVEing regularly, this is something that we should do regardless of problems. Anything that's ever produced on a computer and stored on a disc only exists in 'Cyberspace' or 'never-never land'. It's all too easy to lose valuable time and effort through a power failure, faulty equipment, children playing cards with the discs, leaving discs near magnets, hot light bulbs... take advice from someone who has much experience in trashing data:*

**BACKUP REGULARLY AND OFTEN!**

*More from the ByteBack Postbag next month.*



Some discs...

# BBC Master, part two of ADDOS

*Continuing from last month, the final part of Andrew Donald's hard work*

170 REM Change max drive val  
180 763860=8:763709=7  
190 :

This part does require a deal of explanation. The DPS system will normally handle a maximum of 2 sides each of 80 tracks and 10 sectors per track. That is 1600 sectors. The DPS makes this number more manageable by treating the different sides of the same disc as different drives, so that each "drive" handles a max of 800 sectors. By going double density we are about to increase the number of sectors per track from 10 to 18. To handle this 80% increase in the total number of sectors, I have extended the device of artificial drives. I have arranged that the first 40 tracks 0-39 are counted as one drive and the tracks 40 to 79 are counted as another drive. The total number of sectors handled on either of these "drives" will be 720; well within the 800 limit normally handled by the system. The line 170 is all that is necessary to let the system find any drive number in the range 0-7 as an acceptable value. For the user of the standard single density DFS there has been available drives 0-3 each of 200 for a double drive system. In the new system these drives will refer only to the first 40 tracks. The new higher number drives are arranged to be 4 higher than the low number drives, by which I mean that if drive 0 is the first 40 tracks of a particular side then drive 4 is the second 40 tracks of the same side. In practice the user will not be generally concerned with this, it will automatically be taken care of by the system. The user will just use drives 0-7 as when needed.

200 REM Set max tracks to 40  
210 !8347E=6898528A9

Since we are using tracks 40-79 as a separate drive we must restrict any single drive to 40 tracks.

220 :  
230 REM Verify 18 secs/track  
240 ?&57FA=612

The one area I thought was likely to give trouble in this conversion system was that of formatting and verifying a disc. In fact, handling verification is very simple. It is just a matter of changing the number of sectors verified from 10 to 18 and line 240 does exactly that.

250 :  
260 REM Format 1n DD  
270 ?64293=680:REM Force DD layout  
280 ?657E6=18:7&57EA=18:REM sec count  
290 !42C9=&898512A9:REM Lay 18 s/trk  
300 ?65649=8:REM Max 8 drives  
310 !855EA=&28A9:1&55EC=&EAEAEA18  
320 REM Always format 40 trks  
330

Formatting proved to be extremely interesting. The double density layout of sector information is quite different from that required for single density. I had thought in advance that I would probably have to write a separate program to take care of the formatting. In fact the ADFS system itself does this. It uses a separate program for formatting its discs. I thought that there would be just too much overwriting required to be able to convert the single density sector layout. Nevertheless, I had a look round inside the DFS to see what the set-up was. I was stunned to find a complete layout for the DD system in addition to the SD, together with all the necessary routines to do the formatting. As far as I am aware, the Acorn Operating System has not made use of this at all. Very interesting. Furthermore, all that is required to force these routines into operation instead of the single density is the one line given at 270. The rest of the lines in this section just ensure that that we are catering for 18 sectors per track, 40 tracks and 8 drives. We now have an inbuilt format command.

So far we have been changing the system simply by overwriting bytes in the original DFS.

# ADDOS cont...

Unfortunately we also need a bit of extra code to get the DD system operating. Investigation of the ROM code reveals a bit of unused space at the area B\$E0. This is located at 68E0 in the copy we are working on in memory. The next program section comprises a few machine code routines fitted into this area.

```
340 FOR opt=0 TO 2 STEP 2
350 P%=&68E0:[ OPT opt
360\ Clear SD Flag on commands
370 .comn AND#6DF:STA&FE24:RT5
380
390\ Convert restore command
400 PHA.CMP#00.BNE d1
402 LDA&CD:AND#4.BEQ d1.PHX:LDX#B
410.d5 LDA&D00,X:STA&D00,X
420 LDAd0+&500,X STA&D00,X
430 DEX:BPLd5:LDA&CD:STA&FE28
440.d7 DEX.BNE d7.JSR $8E54:LDX#B
450 d6 LDAd00,X:STA&D00,X.DEX:BPLd6
460 PLX:LDA&D08
470.d2 STA&FE29 CMP#FE29 BNEd2:LDA#40
480.d3 STA&FE2B.CMP#FE2B:BNEd3:PLA
500 LDA#10.PHA:.d1 PLA:STA&FE28:RT5
510
520\ Insert interrupt code
530 d8 PHA:LDA&FE2B:STA&D08B
540 INC#D005:PLA:RTI
550
560\ Adjust track register
570 PHA:LDA&CD:AND#4.BEQ D8:PLA
580 CMP#28.BCS09 CLC:ADC#28:BRA D9
590 D8 PLA .D9 STA&FE29:RT5
600
610\ Adjust data register on seek
620 PHA:LDA&CD:AND#4.BEQ DA:PLA
630 CMP#628 BCSD8 CLC ADC#28:BRA D8
640 DA PLA DB STA&FE2B:RT5
650
660\ Set trk nos. on format
670 LDA&CD:AND#4.BEQ F0:LDA#28
680 .F0 CLC:ADC#C297:RT5
690 J :NEXT
```

Line 370 is the one which will actually switch the 1770 FDC from single to double density operation. It resets bit 5 of the Master Drive Control Register. Later all commands will be routed through this bit of code to ensure all actions are executed in double density.

The next section is probably the most complicated and it is the code which enables the device of an extra four "drives" on tracks 40-79. Let me explain how I have implemented this

When a drive is selected with the \*DRIVE command, the Floppy Disk Controller chip is given what is known as a Restore command. This is an instruction to the FDC to find track zero on the current drive. It does this by stepping the head outwards until it physically hits a stop. That is where track zero is located. All other tracks are located relative to this track zero. You may well be ahead of me at this point. The device I have employed of using a higher drive number for the top 40 tracks is fine until a restore command is issued. My pseudo track zero is at track 40. There is no way the head will stop at track 40 on a Restore command. So how did I handle this? Lines 400-500 are machine code which all Restore commands are routed through. First it checks the drive number. If this is 0-3 the ordinary restore command is executed and that is the end of it. If the drive number is 4-7 then I have arranged a pseudo Restore command

First we have to know what track the head is on. The FDC has a track register showing the current track but it is possible for this to get out of sync with the actual track number. If someone has been stuffing toffee wrappers in the drive door or dropped a cup of tea on top of it, then the head might have jumped a track. The system, if in doubt, will always issue a Restore command and update the FDC's track register to zero. It is vital that we know the real track in case the track register is incorrect. The way in which I have done this is to read sector information containing the track number, from under the head's current position. This requires interrupt code to do the reading (lines 530 & 540). All disc interrupts on the Beeb are handled on page #0D00. I have used a few spare bytes on this page to hold the values read from the disc. This information is used to ensure that the head is now moved to track 40 on the correct side of the right disc and that the track register is correct. That completes the pseudo restore command.

The next two sections of code ensure the correct manipulation of FDC registers for the high

# ADDOS *cont...*

drive numbers. That is, converting pseudo drive and track numbers to the true values to give to the FDC. For example, drive 6, track 9 is really what the system knows as drive 2, track 49. The very last section of machine code is to ensure that true track numbers are written when formatting the pseudo high drives.

Now all that is left is to hook in these additional machine code routines to the existing DFS code. This is done with the following Basic commands:

```
700 183C92-64AB8E020:REH Hook in command  
710 183E2F-624B8E620:REH Hook in restore  
720 183EDF-6CD694420:REH Hook in track reg  
730 183ECC-6CD695A20:REH Hook in data reg  
740 1857C5-6B9702000:REH Hook in format  
750 *SAVE ADDOS 3000 7000
```

Line 750 saves the new DFS to disc.

To implement the new DFS we must replace the old with the new. The commands,

```
*SRLLOAD ADDOS 8000 5  
*UNPLUG 9
```

will load ADDOS into the sideways RAM and unplug the DFS ROM. The sideways RAM must of course, be active. A control/break will now remove the DFS and replace it with ADDOS. To use the system as the main filing system then,

```
*CONFIGURE FILE 5
```

will cause the system to boot into ADDOS on control/break. Under this arrangement ADDOS will need to be reloaded every time power is switched off. Note that only discs formatted under ADDOS will operate with it.

Now we come to the nasty bit. What are the faults, bugs, restrictions etc? There are a few things to point out.

The good news is that by and large all commands as given in the handbook for the DFS will operate for ADDOS. The only bug that I am aware of occurs when making multiple file copies from a low drive number to a high one. e.g. \*COPY 2 6 \*. \*

The command may sometimes stop and hang after a few transfers. I suspect that the reason is that the time allowance for the operation under single density is sometimes insufficient for all that is required under double density. I haven't

found it to be enough of a problem to warrant digging about in the system again, and I have been using this system exclusively on my Master for more than a year. The command \*BACKUP 2 6 which is equivalent to the above, will work perfectly well. Another point is that if you should be using the Osword &?F sector read/write routine, you will find it operates only on drives 0-3, tracks 0-79. That is to say, true drive and track numbers, although it is perfectly happy with the double density.

Another point is that, when using the format command a little care is needed. On low drive numbers (0-3), there is no problem. It is on high drive numbers you may find a problem. Format always executes a restore command and starts at track 0. Remember that on high drives my pseudo restore command needs to read a track to find the current location. If the disc is unformatted then there is no track information available for it to read. The way to overcome this is to make sure that the low drive is formatted before the high drive and that the head is on a readable track when issuing a high drive format command. In practice, once formatted, any drive may be subsequently formatted whenever you wish to do so. If formatting a totally blank disc, let's say in the main drive, the temptation would be to issue the multiple format command, \*FORM 0 2 4 6 which should format all the drives on that disc. In practice the program will get lost probably at the change from 4 to 6. Having formatted 4 the head will actually be at drive 0 track 79, it will switch sides to get to 6, read the current track for its location only to find there is no track there yet. If this command is given in the form \*FORM 0 4 2 6 there should be no such problems. Before doing the high drive format each time, the drive will be starting from an existing track 39. If there is any doubt about the success of the format just check the directores are present with \* 0 .2 .4 and \*.6. If the directores are present and zeroed, the rest of the tracks will also be present. Alternatively the tracks may be verified. It may sound a little messy but in practice the convenience of being able to format 720k with a direct

*Continued on page 15*

*Application Help-line...*

# INTER-WORD

*Part two and conclusion of this 'kick-start' to using Inter-Word, Computer Concepts' fine word processor.*

In the last issue of ByteBack I dealt with starting a new document, basic formatting and saving the document, along with a reference of the key commands used within IW and a function key strip. In this issue I will deal with printing a document and basically covering the various menu options available.

Access to the ten or so menus in IW can be achieved in two ways: pressing CTRL and the function key 1-9, or pressing CTRL-F0. This second option will bring up a status menu which includes a list of the other menus: you can pick those from here. The menus are as follows:

#### **CTRL-F0: STATUS MENU**

Shows the status of your present document, including a word count, number of pages and lines entered, bytes of memory used and the number still free, the chosen filename and a list of the remaining 9 sub-menus.

#### **CTRL-F1: PREFERENCES**

Shows the default preferences for IW unless you have altered them. It's all to do with the display of your document as you work within IW. Interlace On/Off affects the display. Try both options and see which one appears to stop any slight flicker: you may be able to see.

#### **CTRL-F2: MARKED SECTIONS**

From here you have control over any text that you have placed markers around (more on markers later). Style changes set here (Bold, Underline, etc) will act on any text that is marked. This is similar to changing the styles using the function keys (SHIFT-F4-F7) but

these work on marked text only if the cursor is between the markers, or if there are no markers it will affect the selected paragraph. You can also alter the alignment of text from this menu.

#### **CTRL-F3: SEARCH & REPLACE**

A character, word or group of words can be altered in a document by entering the required string and the string to replace it. Wherever the first string is found in the document, it will be replaced with the second.

#### **CTRL-F4: PAGE LAYOUT**

This menu alters the way a document is printed. This will depend on the type of printer you use, the size of the paper and whether you already have anything printed on the paper, such as a logo or address.

#### **CTRL-F5: PRINTER SETUP**

From here you will set up how many copies to print, which pages, and various other printer setup details.

#### **CTRL-F6: CONTROL CODES**

If you use any of the style changes within a document, for example bold or underline text, IW will need to translate them into codes to activate the printer. This menu allows you to set those codes, which can be found in the printer's manual. It's entirely possible to setup the dotted style option to produce italic text if your printer supports italic type, by entering the correct codes here.

#### **CTRL-F7: MULTI-FILE**

This allows IW to deal with a large document, like a book, as smaller, separate files, when a single file would be too large to fit into memory at one time.

#### **CTRL-F8: SPELLING CHECK**

Only works if you also have a ROM LINK compatible spell checker fitted in your BBC.

#### **CTRL-F9: ROM-LINK**

All of the INTER-series of programs are designed to work together. For example, if you also have INTER-BASE installed, you can switch to it from the menu, then switch back to IW whenever you like.

# INTER-WORD *cont...*

13



The definitive guide to using Inter-Word.  
Get it, or don't, basically...

## PRINTING

IW will work with printers connected to the parallel printer port or the serial RS-423 port. When using a serial printer it may be necessary to set the speed (baud rate) of the port to match the printer, using the \*FX 8 command described in the BBC User Guide. IW can handle single sheets of A4 paper or continuous perforated 'fanfold' paper by setting the number of lines to suit the length of paper chosen (i.e. 66 lines for an A4 page, less for a shorter piece, etc). For continuous, perforated paper, set the Continuous/Paging option from the Page Setup Menu to continuous; set this to paging for single pages. Referring back to last BBC article, the Header and Footer can be set as required. If your printer requires that you manually feed each separate sheet of paper, set "pause between pages" on (CTRL-f5 menu). If you find that the printer doesn't line feed after each line (it prints all of your document on one line), set "send line feed" to on too.

## MARKING TEXT

Text markers are useful for a number of reasons: to affect the encompassed text with a command such as Bold or underline; to format the text with left/right/justify/centre; to easily move/copy/delete the marked text. Pressing F3 inserts a marker at the present cursor position. Move the cursor to the end of the section of text you want to work with and press F3 again. The second marker will be placed and the text between the two will be inverted on the screen. You can only have one marked block of text at any time (ie only 2 markers) and pressing F3 again causes the preset markers to be removed and a first marker inserted at the current cursor position. To delete both markers, press CTRL-R.

Text can be printed in columns if required, from 2 to 6 maximum. This can be difficult to deal with; it works something like this. Each column of text is taken from subsequent pages in the document. For example, if you want to have 3 columns of text, the first column will come from the text on page 1, the second column from page 2 and the third from page three, producing one final page when the document is printed out. If there are another three pages in the document, these will make up another 3-column page when printed. The settings for the page setup, header, footer, etc will still apply. Multiple column printing will not work in Multi-File mode.

## WORDWISE/PLUS FILES

It's worth mentioning here that Wordwise or Wordwise Plus files are transferable into IW but any embedded control codes used for altering letters when printing will be lost and appear only as extra spaces. If you have WW files you want to transfer, it's best to remove all embedded codes beforehand.

*Well that's it! To fully appreciate Inter-Word you need to have the user guide and reference manual which contains everything that has been touched on in this article and more, but in much more detail.*

*in black and white (and colour)*

# printers part 3

*A review and a Font Setup program round off this series for the time being.*

*By Frank Irevson.*

## PANASONIC KX-P1170

I use VIEW (ROM based) and Mini Office II (disk based) and need to produce both draft and fair copies of my WP work in various fonts. I also do some programming and often need to examine my programs in detail and make printed copies for reference, so I need a fairly versatile printing capability. I already had a fairly simple dot matrix printer of the older type that printed the 'j, p, q and y' on the line, and never understood how to obtain anything other than a draft font, so was well and truly ready for something more modern.

After much consideration I bought a Panasonic KX-P1170 9-pin dot matrix printer, costing £107, and its versatility was far beyond my expectations. I can thoroughly recommend it for its ease of use and good results. It emulates the commonly used Epson FX-860/FX-80 and IBM Proprinter II standard. (I was advised that there is little point in purchasing a 24-pin dot matrix printer for an 8-bit computer as it can only address 9 of the 24 pins.) Its main features are:-

**Physicals:** Quite light (6.9kg), compact (423(W)x341(D)x133(H) mm), also quite sturdy in a light cream plastic case. It is neither noisy nor quiet but fairly tolerable. It has versatile paper handling, permitting continuous paper feed through the rear, bottom and top, and paper parking to allow single sheets and envelopes to be fed through the top without disconnecting the continuous paper. It employs tractor (sprocket) feed for the continuous paper feed and friction feed for the single sheet and employs a 11.7ms carriage which is variable to

suit the paper. The paper feed length can usually be controlled from the WP system. A one-sheet feeder (multiple single sheets automatically fed) is available as an extra. The printer ribbon is continuous and long lasting. **Printing:** The printer has a 6k buffer so can soak up the printer characters as they are sent, and a 32k buffer can be fitted as an extra. The print speed is 192 chars per second (cps) in draft elite and 38cps in near letter quality (NLQ). It incorporates 2 draft fonts and 4 NLQ fonts (courier, prestige, Bold PS and Sans Serif). It will also accept the external downloading of individual and complete font sets. It incorporates 13 international character sets (useful for a multilingual person) which can be set by dip switches or external controls. It will print both text and graphics and employs an easy-set operator panel which controls over 9 functions including font, pitch, form length, form feed and lns feed. Its standard connection to the Beeb is centronics parallel although serial RS-232C is available as an extra.

## FONT SET-UP PROGRAM

Setting the printer fonts etc To simplify setting up of the printer, and to avoid having to go through the motions of using the easy-set operator panel, I have created a screen menu program. Before any of the printer fonts can be downloaded the printer must be active, if it isn't the user is warned by a screen message, and immediately the printer is activated the menu is displayed for the selection of the appropriate commands for the required character set, fonts etc., to be sent to the printer. This simplifies the process and gives greater versatility. Some fonts are 'sticky', such as italics, meaning that they need to be cancelled before changing to another font, otherwise it is permissible to change from one font to another. Where necessary these commands are included in the menu of the program. The menu can be modified to include or exclude commands.

# printers cont...

```
10REM PR.SET
20REM - Font change utility -
30REM Test characters: #[""]-
40REM Frank Iveson
50REM 3 OCTOBER 1992
60:
70REM$3
74REM Following command to release motor
on after exiting from VTEM
75'MOTOR
80PROCcheck_printer
90REPEAT
100*FX4,1
110REM ERROR IF ERR=17 GOTO 140
120PROCmenu
130UNTIL AS="R" OR ASC(AS)=13
140CLS
150*FX4,0
160END
170:
180EE PROCmenu
190CLS
200PRINTTAB(35,2)"PRINTER SET UP"
210PRINTTAB(8)STRINGS(67,"-")
220PRINT"1. - English Character Set -"
230PRINT"2. - American Character Set -"
240PRINT"3. - German Character Set -"
250PRINT" A. Draft font/draft pitch"
260PRINT" B. NLQ font"
270PRINT" C. NLQ-Italic/courier pitch
h"
280PRINT" D. Release italic font"
290PRINT" E. NLQ-Courier/courier pit
ch"
300PRINT" F. NLQ-Prestige/prestige p
itch"
310PRINT" G. NLQ-Bold PS/bold PS pit
ch"
320PRINT" H. Pica/Condensed/Superscr
pt/Linefeed 16/216ins"
340PRINT" I. Pica/PGM pitch (10
cpi)"
350PRINT" J. Elite/courier/prest
ige pitch (12 cpi)"
360PRINT" K. Microm printing (15
cpi)"
370PRINT" L. Compressed printing
(17 cpi)"
380PRINT" M. Release compressed
printing"
390PRINT" N. Proportional spacing
g"
400PRINT" O. Release proportions
1 spacing"
410PRINT" P. Superscript"
420PRINT" Q. Sub-script/superscript
release"
430PRINT" R. Quit"
440PRINTTAB(48,23)"Enter your choice:";
450REPEAT AS=GETS
```

460IF AS="1" PROCenglish	470IF AS="2" PROCanmerican	480IF AS="3" PROGgerman	490IF AS="A" PROCdraft	500IF AS="B" PROCnlg	510IF AS="C" PROCnlgitalic	520IE AS="c" PROCrelitalic	530IF AS="D" PROCnlgcourier	540IF AS="E" PROCnlgsansserif	550IF AS="F" PROCnlgprestige	560IE AS="G" PROCnlgbold	570IE AS="H" PROCpica_cond_sup_line	580IE AS="I" PROCpica_pitch	590IE AS="J" PROCelitepitch	600IF AS="K" PROCmcrone	610IE AS="L" PROCcompressed	620IF AS="M" PROCrelicompressed	630IE AS="N" PROCps	640IE AS="O" PROChelps	650IF AS="P" PROCsubscript	660IF AS="Q" PROCsub_superoff	670UNTIL AS>"B" AND AS<"d" OR ASC(AS)=13	680ENDPROC	690:	700DEF PROCgerman	710VDU 2,1,27,1,82,1,2,3:ENDPROC	720:	730EE PROCenglish	740VDU 2,1,27,1,82,1,3,3:ENDPROC	750:	760EE PROCanmerican	770VDU 2,1,27,1,82,1,0,3:ENDPROC	780:	790EE PROCdraft	800VDU 2,1,27,1,120,1,0,1,27,1,80,3:ENDP ROC	810:	820DEF PROCnlg	830VDU 2,1,27,1,120,1,1,3:ENDPROC	840:	850DEF PROCnlgitalic	860VDU 2,1,27,1,120,1,1,27,1,52,1,27,1,77,3:E NDPROC	870:	880EE PROCrelitalic	890VDU 2,1,27,1,53,3:ENDPROC	900:	910EE PROCnlgcourier	920VDU 2,1,27,1,120,1,1,1,27,1,107,1,0,1,27,1,7 7,3:ENDPROC	930:	940EE PROCnlgsansserif	950VDU 2,1,27,1,120,1,1,1,27,1,107,1,1,1,27,1,7 7,3:ENDPROC	960:	970EE PROCnlgprestige
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Continued on page 13...

# Competition results

Many of you (both of you) may remember that back in issue four, I ran a competition to give away a BASIC instruction book, complete with accompanying cassette tape ("you've seen the film, read the book, heard the tape, eaten the hamburger, now..."). Well, after wading through the many replies, I am now able to disclose the winner. Of the two entrants, the lucky name pulled out of the eggcup is ...

*Pat Wren from Nottinghamshire*

The answers to the questions posed are as follows:

1a) GOOL stands for Graphics Colour

1b) CLS stands for Clear Screen

1c) PROC stands for PROCedure

2) ENVELOPE must be followed by 14 arguments

3) LISTO 0 actually doesn't do anything; it lists the program in memory on the screen exactly as it is stored in memory. Other LISTO options (1,2,4 and combinations of) format the listing by adding various spaces all over the place.

Competition number two, I asked you to guess the colour of the Christmas/New Year (Easter/Summer/Holiday/Halloween) issue of ByteBack, which was pink. The winner receives a game of their choice from a large selection I have keeping the lounge door propped open. That lucky person is...

*John Sampson from West Yorkshire*

... who was the only one to reply!

Another game goes to anyone who can tell me why I bother to run competitions at all! The wittiest response (indeed probably the only response) will win.

Well Pat, you lucky so-and-so, this is your priceless pride and joy. Remember readers, nowhere else can you get prizes of such a 'high' standard. Who needs Readers' Digest anyway? £1,000,000 Peleopey...



## PRINTERS CONT

Continued from page 12...

988VDU  
2,1,27,1,128,1,1,1,27,1,187,1,3,1,27,1,7  
7,3:ENDPROC  
998:  
1000DEF PROCnlobold  
1010VDU 2,1,27,1,128,1,1,1,27,1,187,1,6  
,1,27,1,122,1,3:ENDPROC  
1020:  
1030DEF PROCpicc\_cond\_sup\_line  
1040VDU 2,1,27,1,51,1,16,1,27,1,89,1,15,  
1,27,1,83,1,1,3:ENDPROC  
1050:  
1060DEF PROCpicpitch  
1070VDU 2,1,27,1,80,3:ENDPROC  
1060:  
1090DEF PROCeelitepitch  
1100VDU 2,1,27,1,77,3:ENDPROC  
1110:  
1120DEF PROCmcron  
1130VDU 2,1,27,1,109,3:ENDPROC  
1140:  
1150DEF PROCcompressed  
1160VDU 2,1,15,3:ENDPROC  
1170:  
1180DEF PROCrelecompressed

1198VDU 2,1,18,3:ENDPROC  
1200:  
1210DEF PROCps  
1220VDU 2,1,27,1,112,1,1,3:ENDPROC  
1230:  
1240DEF PROCreleps  
1250VDU 2,1,27,1,112,1,0,3:ENDPROC  
1260:  
1270DEF PROCsuperscript  
1280VDU 2,1,27,1,83,1,0,3:ENDPROC  
1290:  
1300DEF PROCsue\_sub\_superoff  
1310VDU 2,1,27,1,84,3:ENDPROC  
1320:  
1330DEF PROCcheck\_printer  
1340LF FNprinter\_on ENDPROC  
1350VDU22,7  
1368LF NOT FNprinter\_on  
PRINITAB(5,18)CHR\$134;"PLEASE SWITCH  
PRINTER ON"  
1370REPEAT  
1380UNTIL FNprinter\_on  
1390VDU22,3:ENDPROC  
1400:  
1410DEF FNprinter\_on  
1420FX21,3  
1430VDU 2,1,0,1,0,3  
1440=((ADVAL-4=63) OR (ADVAL-4=12831))

# Public Domain and shareware

With the revelation that Alan Blundell is to finally pack up his BBC PD kit bag, all would seem lost. It is a person of great patience that takes on the job of running something like BBC PD and for that, Alan must be commended. Now it's time for him to take a well earned rest. I am sure that his library of discs will be passed on to somebody who will continue the cause. In the meantime, I have a couple of reviews from discs Alan sent me a couple of weeks ago.

## POLISH FLAVOUR

### DISC #157

If you are one of these folk who buy PD software regularly, you may be aware of a Miroslaw Bobrowski from Poland. He has written quite a lot of software that has been released into the public domain, one collection of which I have just sat through and thoroughly enjoyed. It is a tribute to his homeland and contains a lot of interesting information about Poland. A heap of history unfolds like a story, complete with maps and music, taking you through the last 200 years of the country. The music on the disc is various, including Mozart classical and traditional Polish songs. There is also a section that contains Polish Christmas Carols.

The graphics Miroslaw has put together for his presentation are of a very high standard. There are even a number of 'busts' of young Wolfgang himself!

As well as the two separate history 'tours', the Christmas Carols and the Mozart numbers, other menu items include a professionally presented version of Battleships - played against the computer, a non-linear equation graphing routine (far too technical for me, but good fun nonetheless), a Periodic table (with details of each element) and a selection of utilities for Basic programs, including a pairwise routine, a merge routine (joining two Basic programs together) and a Basic line delete routine that works much faster than the DELETE routine provided by BBC BASIC.

Considering the variety on this disc and the professional way everything is presented, it makes it a collection well worth checking out!

## DISC USER

Not strictly public domain, BBC PD has the exclusive right to distribute these discs. If you remember back in the 80's, it was possible to buy a magazine that came as a disc. You could walk into WHSMITH and pick it up (you know the type, the first issue is 15p with free binder, etc. Then the next one and ones thereafter are £3.99 and no binder!). Well, Disc User is something like that. Each issue contains a lot of different stuff.

Subject: Disc User issue 6, April 1988. The files are thus: *Psychobrot*, *Hot key*, *Schizavrenia*, *Martian Nom*, *Football Fortress demo*, *Painting the town*, *Blobber*, *Zoom lens*, *Graphics from Basic*, *Collector's demo 'G'* and *Pixel Perfect*. Here's a taste of what some of these are about.

*Schizavrenia* is a n/c utility that splits the screen in half vertically. *Painting the town* is a bit of clip art to view. *Football Fortress* is a demo of a commercial football management game of 1988 produced by CDS. One of my favourites, the "Collector's Items..." feature of each issue is a MODE 7 graphical display you just sit and watch it. You get a few seconds of a repeating animation, made up completely of teletext 'chunky' graphics. It doesn't sound like mush, but believe me, it's quite impressive. The one here is a large Giant (full screen height) leaning over and squashing this little MODE 7 house, then smiling. Crazy maybe, but somewhat amusing!

*Martian Nom* is based on the traditional strategy game but the graphics and animation are great. You have all these martians lined up and they're all standing there looking around! They look up, down and left and right. You 'remove' them by selecting them and your 'player' looks at the targets, then nods at you, then shoots them with a laser! Neat!!

# The mysteries of INKEY



*Stephen Fewell from Essex gives this insight into the codes that make up the INKEY command.*

Most people know the three main functions of BASIC's INKEY command (OS-BYTE 129) which are as follows:

If followed by a positive number, then it will return the ASCII value of the first key pressed within the specified time limit.

INKEY-256 returns the machine type (see BB issue 5).

INKEY with a negative number within the range -1 to -127 will return TRUE if that particular key is pressed and FALSE otherwise.

But what about INKEY with values -130 to -255?

The most useful one is INKEY-130, as it returns FALSE if any key is pressed or TRUE if no key is pressed (apart from CTRL and SHIFT). So, to wait until any key is pressed, you could use the command:

```
REPEAT UNTIL INKEY-130=0 OR INKEY-1  
OR INKEY-2
```

This uses INKEY-130 to test if any keys are being pressed and INKEY-1 and INKEY-2 to test the SHIFT and CTRL keys.

If used from the command line or just after an input then a wait should be performed before the REPEAT...UNTIL loop. This allows for

any keys being currently pressed to be released. A simple wait loop could be:

```
FOR I% = 1 TO 8000: NEXT I%: "FX15,0  
"FX15,0 is used to clear the keyboard buffer of any stored key presses that would be presented to the INKEY-130 instruction before the user had a chance to properly respond to the input request.
```

A loop to wait until no keys are being pressed could be as follows:

```
REPEAT UNTIL INKEY-130 AND INKEY-1=0  
AND INKEY-2=0
```

INKEY with values from -131 to -255 aren't



A picture of what you need to appreciate this article. And with one of these, you can send articles to me...

particularly useful but are included for completeness. They work as follows.

FALSE is returned if any key with an INKEY value in the range

((value following INKEY)-128) to -127 is pressed. Perhaps an example:

```
REPEAT UNTIL INKEY-134=0
```

will keep looping until a key is pressed with a value from -56 to -127, as in (-184)-(-128)-56. TRUE is returned if no keys within the range are pressed.

*Dare I say: Thank you Stephen for your INPUT to ByteBack...*

## ADDO\$

command to the operating system, easily outweighs any little complication.

If you do like this filing system and prefer it to the ADFS then I would suggest burning it on to a 16k Eprom which may be plugged into socket IC27. It is then easily set as the default filing system so as to activate immediately on power up.

Please do not interfere with the copyright

message in the DFS. Acorn have given permission for distribution of this modified version. The copyright still belongs to them. Finally, if you have found all this a bit incomprehensible at this stage of your knowledge, but you would still like to try ADDOS, then a public domain dump of the file is available from, BBC PD, 16 Carlton Close, Blackrod, Bolton BL6 5DL.

# questionnaire

23 Questionnaires were returned by a number of you (23 of you actually). This is how your views for ByteBack shape up.

How do you rate your knowledge of the BBC Micro in general 54/10

How do you rate your knowledge of programming in BASIC 4.7/10

Please indicate whether the following articles should be in ByteBack more

Readers' letters	55%
Editorial	30%
BBC's in education	-%
Program listings	65%
The Noticeboard	50%
Little Bits/Tips	60%
Vintage News	-%
PD & Shareware	50%
Games Reviews	-%
Classifieds	75%
Suppliers & Support	75%
Other readers' articles	95%

Readership ages:

20-30 yrs	13%
30-40 yrs	8.7%
40-50 yrs	21.7%
50-60 yrs	21.7%
60+ yrs	34.9%

Issue Six

How interested would you be to see these subjects covered in future issues of ByteBack (1-10):

Beginners section	5.6
BASIC programming - beginners	4.7
BASIC programming - advanced	6.3
Machine Code	5.1

Models of BBC owned

BBC 'B'	69%
BBC B+	8%
BBC Master	43%

Number of people owning more than one computer 17.4%

Users of 3½" disc drives 13%  
Users with printers 60.9%

These figures give a fairly accurate account of what BBC setups you have and what you would like to see ByteBack covering. Some of the articles listed on the left have already been dropped, due to unpopular demand, and hopefully new ones will come along, with advice from you of course!

The figures also illustrate the fact that most of you are into your senior years, and have built up quite a system. I was surprised to discover so many people using BBC Masters and only half of you with printers - I rather thought this figure would be higher than that. If you're not printing out from your computer, what are you doing with it? (answers on a postcard to the usual address...)

# classified adverts

- ◎ BBC, 5 tapes, £60.00. Contact Darren: 081-539 7260 day (081-555 9303 eve)
- ◎ BBC B including DFS interface chips (Watford DFS), RDMS, Toolkit, Grenouille, Sleuth, £30.00 + p+p. Contact Paul, 0992-652066, days or eves.
- ◎ 80+ tapes for the BBC for sale, also 60+ tapes for the Electron. Send an SAE to Darren, 720 High Road Leytonstone, London E11 3NN
- ◎ WANTED, Typing Tutor for the BBC Micro, or something similar. Contact Stephen Claxton, Workout, Minster House, York Road, Eastbourne, East Sussex BN21 4ST
- ◎ Can anyone suggest a good database/spreadsheet package that will run on the BBC Master Compact? Contact Brad Bradshaw, Manor Croft, Newlaithes Road, Horsforth, Leeds LS18 4LG
- ◎ Acorn Electron and PSU, £20.00 + P.P. Contact John, 0532-712179
- ◎ BBC analogue joysticks, £5.00. Solidise 128k SWR for BBC B, £15.00, including Solidise software on 11 discs. Please add p+p. Contact Paul, 0992-652066, days or eves.
- ◎ WANTED, BBC with disk system, price negotiable, or could part exchange for other 8-bit hardware/software. Contact John, 0532-712179
- ◎ HELP! I am trying to help friend with his machine. He has a BBC B which about 10 years ago, had a 'Keoda Professional DFS' fitted. He recently took his machine to a BBC dealer to have a SWram/ram board fitted. Not knowing what they were doing, they cut the two flying leads from the Kendal's circuit board (a bit like the 1770 board), and desoldered the cut wires from where they were connected on the motherboard. My friend has no way of knowing where these wires were connected, in order to repair the damage. I wonder if any of the members have any knowledge about fitting this system, which I must admit to never hearing of before. perhaps they'd be kind enough to ring me on 0738-812186, or write to Colin Culpitt-Smith, 35 Mairmount Crescent, Bridge of Earn, Perth PH2 9RG

## THE INTER-BASE PROGRAMMING GUIDE

For anyone who has Computer Concepts' INTER-BASE Database Rom and for anyone who wants to learn it. This 290-page, spiral bound book takes up where the "inadequate" user guide left off. It takes you through creating your own database setup from beginners' level, with example programs along the way and every command is explained in the reference section.

INTER-BASE Guide £14.95  
INTER-BASE ROM £22.50

**SYNECTICS - 0270 761928**

between 8pm-9pm

(Other CC's ROM's also available)

- ◎ ByteBack adverts are free. If you have something to sell, or want to buy something from somebody else, write to ByteBack with details and I will be pleased to include it here.

## Acorn User Show '94

Harrogate International Centre  
22nd-24th April 1994

SOON

8-Bit Software has a stand at the show, so if you're in the area, why not pop in and say hello. I'm sure he could use all the support possible from fellow Beeb users, particularly among so many Archimedes!

## SUPPLIERS & SUPPORT

- Adventure Soft Ltd - PO Box 786, Sutton Coldfield, West Midlands, B74 4HG - 021 352 0847
- Rickitt Educational Software - 0460 57152
- Pres Ltd - PO Box 319, Liphurst, Surrey GU18 5PW - 0276 472046
- Software Bargains & Mercury Games - C/O Northwood House, North Street, Leeds LS7 2AA - 0532 436300
- Watford Electronics - 0582 487777
- Sherston Software (educational software) - 0666 840433
- Headfirst PD - 97 Chester Road, Southport, PR9 7HH
- Mad Rabbit PD - Joel Rowbottom, PO BOX 4, Crigglestone, Wakefield, West Yorkshire WF4 3XE
- JFF PD - James Farmer, 49 Hollyberry Close, Wimborne Green, Redditch, Worcestershire B98 0QT

### OTHER BBC USER GROUPS

- SOLINET - Disc based magazine packed full of useful BBC items: Ron Marshal, 41 Westbrook Drive, Rainworth, Mansfield, Nottingham NG21 0FB
- 8-BIT SOFTWARE - A good source of BBC information and PD software via a disc based magazine for enthusiasts: Chris Richardson, 8BS, 17 Lambert Park Road, Hedon, Hull HU12 8HF
- DESTROYED REALITIES - Disc based magazine: David Lowless, 82 Main Street, Pembroke, Dyfed, Wales SA71 4HH

Please include an SAE when replying to these groups

Any correspondence (always welcome) to Paul Harvey, ByteBack, 33 King Henry's Mews, Enfield Lock, Middlesex EN3 6JS.

### SUBSCRIPTIONS

My aim is to produce an issue of ByteBack once a month. It won't always happen (due to the rest of my life getting in the way), so we'll just see what happens. The subscription will remain at £1.00 a copy (including postage), and you can subscribe to as many or as few copies as you like, up to 12 copies maximum. No need to return any forms, just pop a cheque in the post (payable to P. Harvey please, *not* ByteBack!), along with a note explaining which copies you require and I'll make sure you get them in tippy-top condition! ■■■

## THE NOTICEBOARD

### BYTEBACK ISSUE SEVEN -

- ✓ No More on Printers . . .
- ✓ Anybody got VIEW? Of course you have. For you, a short article on getting started

**COMING SOON:** The different BBC Models

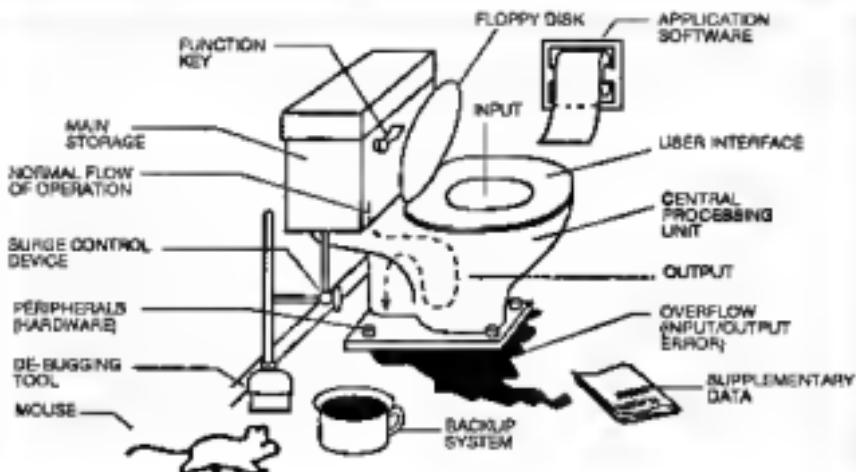
### DESTROYED REALITIES

As mentioned very briefly in the last issue, there is a new kid on the block. His name is David Lowless and he has begun a disc-based magazine for the BBC Micro with the rather unusual, but no less intriguing, title of Destroyed Realities. Being a nice person, he was kind enough to send me the first issue prior to completion, to get a feel for what's on offer. From what I have seen, David and his team certainly know how to make the BBC perform feats.

I have just been sent a copy of Sherston Software's brochure (September 1993). It contains quite a selection of educational software with no less than 20 titles for the BBC range of computers, although they announce their last 8-bit release in this issue. Still, if you need some education software for the kids, you can contact Sherston Software (Wiltshire) on 0666 840433.

ByteBack is a completely independent publication, not associated with, tied to, or supported by another group, company or individual. It is intended to help, encourage and bring together users of the BBC Micro. It is not a profit making venture driven by enthusiasm and support from its readers, it springs into existence every four-six weeks or so, hopefully providing an interesting read for half an hour or so. Every effort is made to ensure that the content of ByteBack is accurate. Any errors or omissions found should be forgotten... Alternatively, they can be ignored.





Er... some light relief. A well-circulated little piccy,  
provided for ByteBack by Frank Jones,  
only he didn't know I was going to use it...  
EV

#### HINTS & TIPS    HINTS & TIPS    HINTS & TIPS    HINTS & TIPS

- Typing the line ?&FE4E=127 followed by pressing BREAK re-sets the whole computer - just as if you'd turned off and back on BUT it saves a lot of wear & tear on the on/off switch. (Sue Shawcross).
- By using a function thus:  
  
DEF FNmode=>?&355  
  
it is possible for your BBC program to find out what mode it is in. A value returned will be in the range 0-7, unfortunately this routine will not take into account shadow ram.
- The following routine will allow static text in modes 0-6... of a sort:

```

1000 DEFPROCCitalic
1010 LOCAL A,A$,AS,XN,YN
1020 FOR A=1 TO LENText$:AS=Mid$(text$,A,1)
1030 ?&70=&SC AS$:XN=&70:YN=0
1040 A$=10:CALL &FFF1
1050 1&79=&6A007099:1&7D=&60007099
1060 FOR YN=1 TO 8:IF YN=4 ?&7C=&2A:YN=6
1070 CALL &79:NEXT
1080 VDU23,128,&71,&72,&73,&74,&75,&76,&77,&78,128
1090 NEXT:ENDPROC

```